MONTANA FISH, WILDLIFE & PARKS

1400 South 19th Avenue
Bozeman, MT 59718

May 1, 2019

To: Governor's Office, Tim Baker, State Capitol, Room 204, P.O. Box 200801, Helena, MT 59620-0801
Environmental Quality Council, State Capitol, Room 106, P.O. Box 201704, Helena, MT 59620-1704
Dept. of Environmental Quality, Metcalf Building, P.O. Box 200901, Helena, MT 59620-0901
Dept. of Natural Resources & Conservation, P.O. Box 201601, Helena, MT 59620-1601
Montana Fish, Wildlife & Parks:
Director's Office Parks Division Lands Section FWP Commissioners
Fisheries Division Legal Unit Wildlife Division Design & Construction
MT Historical Society, State Historic Preservation Office, P.O. Box 201202, Helena, MT 59620-1202
MT State Parks Association, P.O. Box 699, Billings, MT 59103
MT State Library, 1515 E. Sixth Ave., P.O. Box 201800, Helena, MT 59620
James Jensen, Montana Environmental Information Center, P.O. Box 1184, Helena, MT 59624
Janet Ellis, Montana Audubon Council, P.O. Box 595, Helena, MT 59624
George Ochenski, P.O. Box 689, Helena, MT 59624
Jerry DiMarco, P.O. Box 1571, Bozeman, MT 59771
Montana Wildlife Federation, P.O. Box 1175, Helena, MT 59624
Wayne Hurst, P.O. Box 728, Libby, MT 59923
Jack Jones, 3014 Irene St., Butte, MT 59701
Jack Atcheson, 2309 Hancock Avenue, Butte MT 59701
U.S. Army Corp of Engineers, Helena
U.S. Fish and Wildlife Service, Helena
U.S. Fish and Wildlife Service, 420 Barrett Street, Dillon, MT 59725
Big Hole Watershed Committee, P.O. Box 931, Butte, MT 59703
Montana Trout Unlimited, P.O. Box 7186, Missoula, MT 59807
Dan Vermillion, FWP Commissioner, Livingston MT
Earnest and Colleen Bacon, 2215 Fishtrap Creek Road, Wisdom, MT 59761
Dept. of Natural Resources and Conservation, 730 N. Montana Street, Dillon, MT 59725-9424
George Grant Chapter of Trout Unlimited, P.O. Box 563, Butte, MT 59703
Skyline Sportsmen, P.O. Box 173, Butte, MT 59703
Anaconda Sportsmen, 2 Cherry, Anaconda, MT 59711
E.T. Bud Moran, Chairman CSKT, PO Box 278, Pablo, MT 59855
Al Lubeck, 2710 Amherst, Ave, Butte, MT 59701
Adam Rissien, ORV Coordinator, Wildands CPR, PO Box 7516, Missoula, MT 59807
Josiah Pinkham, Tribal Arch., Nez Perce Tribe, PO Box 365, Lapwai, ID 83540
John and Sandy Gordon, 119033 Juniper Acres Rd, Butte, MT, 59750
Phil Ralston, 54289 MT Highway 43, Wise River, MT 59762
Martin White, 3308 46th Ave. SE, Mandan ND, 58554-4730
Jerry Lussie, 305 Main Street, Anaconda, MT 59711
Jim Schmeller, Montana Living Trust, 4935 Everett Rd, Akron, OH 44333
Kieth and Jean Rankin, P.O. Box 28, Anaconda, MT 59711
Richard Seddon, 2017 Harrison Ave# 237, Butte, MT 59701
Haddox Ventures LLC, 9141 Briar Forest Dr., Huston, TX 77024
Frank Stanchfield, 62311 Hwy 43, Wise River, MT 59762
Mathew White, 4977 Foothill Rd, Butte, MT 59701
Lewis Pesanti, 1424 Sunrise Ln, Butte, MT 59701
Jim Street, 448 Red Fox Rd., Wise River, MT 59762
Donna Brown, P.O. Box 4, Wise River, MT 59762

Jim Bacon, 1000 Bossard Rd, Anaconda, MT, 59711
Bart Bacon, 3014 Carter St, Butte, MT, 59701
Wade Fellin, 36894 Pioneer Mountains Scenic, Wise River, MT 59762
Don Stodden, P.O. Box, 96, Wise River, MT 59762
Debbie and Mike Robbins, 750 Alder Creek Rd, Wise River MT 59762
J.P. Gordon, 709 Illinois St., Butte, MT 59701
Tony Schoonen, 3609 Willoughby, Butte, MT 59701
Lee Krugerud, 1541 Lower Seymour Lake Rd, Wise River, MT 59762
Jason Barlman, 1901 Florence, Butte MT 59701
Steve Lubeck, 17 Queens Court, Butte, MT 59701
Scott Reynolds, 7263 Cobiac Drive, Saint James City, FL 33956
Jack Hencock, 1374 Deep Creek Rd. Wise River, 59762 and 14366 E. 29th Place, Yuma, Az. 85367
Ken Schmidt, 2946 N. Cable Rd, Anaconda MT 59711

Montana Fish, Wildlife and Parks is proposing a project that would occur on French Creek on the Mount Haggin Wildlife Management Area. The proposed action would restore stream habitat by relocating roughly 2000 ft of French Creek from an area that experiences high rates of erosion to an area with an intact floodplain and a healthy riparian area where erosion rates will be significantly less. The cause of the impairment in this reach of stream was past mining practices within and upstream of the immediate project area. French Creek was channelized in a ditch from the confluence of French Gulch to the proposed project area. Placer mining occurred at the lower end of the project area on French Creek. Extensive placer mining occurred in French Gulch and Moose Creek farther upstream, and the massive amounts of sediment generated through these mining operations were deposited in the reach currently being proposed for restoration. These deposited sediments contributed to a highly unstable stream channel. The stream channel has migrated west and runs along the base of a high eroding bank of unstable silt and clay material. Each year the creek cuts into the 50-ft tall bank and causes massive calving into the stream. The proposed project would relocate the stream channel away from this eroding area into an area of the floodplain of French Creek that is well vegetated and would allow proper stream function without chronic erosion. The newly formed stream channel would be slightly longer than the existing channel and would contain high quality aquatic habitat. The habitat benefits of the project would be reduced erosion and sedimentation downstream. This sedimentation is having significant impacts on fish and other aquatic life. Stream and riparian habitat would also be improved. Wetland areas would be enhanced, and wildlife habitat for moose and elk would be improved. The project would benefit native Arctic grayling, westslope cutthroat trout, and western pearlshell mussels. This project is expected to be completed in conjunction with the restoration of placer mining impacts on Oregon Creek which was evaluated in a previous Environmental Assessment.

Montana Fish, Wildlife & Parks invites you to comment on the attached proposal. The public comment period will be accepted until May 31, 2019. Comments should be sent to the following:

Montana Fish, Wildlife & Parks
c/o Stream Channel Restoration in French Creek
1820 Meadowlark Ln.
Butte, MT 59701
Or e-mailed to: jimolson@mt.gov

Sincerely,

Mark Deleray
Region Three Supervisor

Attachment

MONTANA FISH, WILDLIFE & PARKS
FISHERIES DIVISION

Environmental Assessment for Stream Channel Restoration in French Creek, Big Hole River Drainage

PART I: PROPOSED ACTION DESCRIPTION

A. Type of Proposed Action: The proposed project would occur on French Creek on the Mount Haggin Wildlife Management Area. The proposed action would restore stream habitat by relocating roughly 2000 ft of French Creek from an area that experiences high rates of erosion to an area with an intact floodplain and a healthy riparian area where erosion rates will be significantly less. The cause of the impairment in this reach of stream was past mining practices within and upstream of the immediate project area. French Creek was channelized in a ditch from the confluence of French Gulch to the proposed project area. Placer mining occurred at the lower end of the project area on French Creek. Extensive placer mining occurred in French Gulch and Moose Creek farther upstream, and the massive amounts of sediment generated through these mining operations were deposited in the reach currently being proposed for restoration. These deposited sediments contributed to a highly unstable stream channel. The stream channel has migrated west and runs along the base of a high eroding bank of unstable silt and clay material. Each year the creek cuts into the 50-ft tall bank and causes massive calving into the stream. The proposed project would relocate the stream channel away from this eroding area into an area of the floodplain of French Creek that is well vegetated and would allow proper stream function without chronic erosion. The newly formed stream channel would be slightly longer than the existing channel and would contain high quality aquatic habitat. The habitat benefits of the project would be reduced erosion and sedimentation downstream. This sedimentation is having significant impacts on fish and other aquatic life. Stream and riparian habitat would also be improved. Wetland areas would be enhanced, and wildlife habitat for moose and elk would be improved. The project would benefit native Arctic grayling, westslope cutthroat trout, and western pearlshell mussels. This project is expected to be completed in conjunction with the restoration of placer mining impacts on Oregon Creek which was evaluated in a previous Environmental Assessment.

B. Agency Authority for the Proposed Action:

- Mount Haggin Wildlife Management Area Interim Management Plan (1980)

  The interim management plan states that Mount Haggin WMA will be managed for dispersed outdoor recreation activities that are consistent with the area's ability to support such use without degradation of its natural resource values (wildlife, fisheries, vegetation, and cultural/historical resources). The plan describes activities that are aimed at protecting the basic soil, vegetation, and water resources of the WMA that will maintain or enhance wildlife and wildlife habitat.

C. Estimated Commencement Date:

Action	Completion Date
Construction Mobilization	7/15/19
Construction of project	8/1/19
Demobilization and access reclamation	11/1/19

D. Name and Location of the Project**:** Stream Channel Restoration in French Creek, Big Hole River Drainage

The project location on French Creek is Deer Lodge County approximately 15 miles southeast of the town of Anaconda, Montana; T2N R12W Sec 3.

E. Project Size (acres affected)

1. Developed/residential – 0 acres
2. Industrial – 0 acres
3. Open space/Woodlands/Recreation – 0.61 acres of upland habitats consisting of native grasses and sage brush will be impacted by the creation of an access route to the construction area. This construction route will require no or minimal surface disturbance and will be completely reclaimed once construction is complete.
4. Wetlands/Riparian – 1.81 acres of wetlands will be impacted as a result of the proposed project. 4.46 acres of wetlands will be created resulting in a more than doubling of wetland acreage. Approximately 2000 ft of stream channel will be restored in French Creek.
5. Floodplain –The floodplain within the reach of stream that will be abandoned is restricted by high banks west side of the stream. The new steam channel will have a much wider floodplain which will increase riparian health and reduce erosion. The newly created stream channel will be slightly longer than the historic channel.
6. Irrigated Cropland – 0 acres
7. Dry Cropland – 0 acres
8. Forestry – 0 acres
9. Rangeland – 0 acres

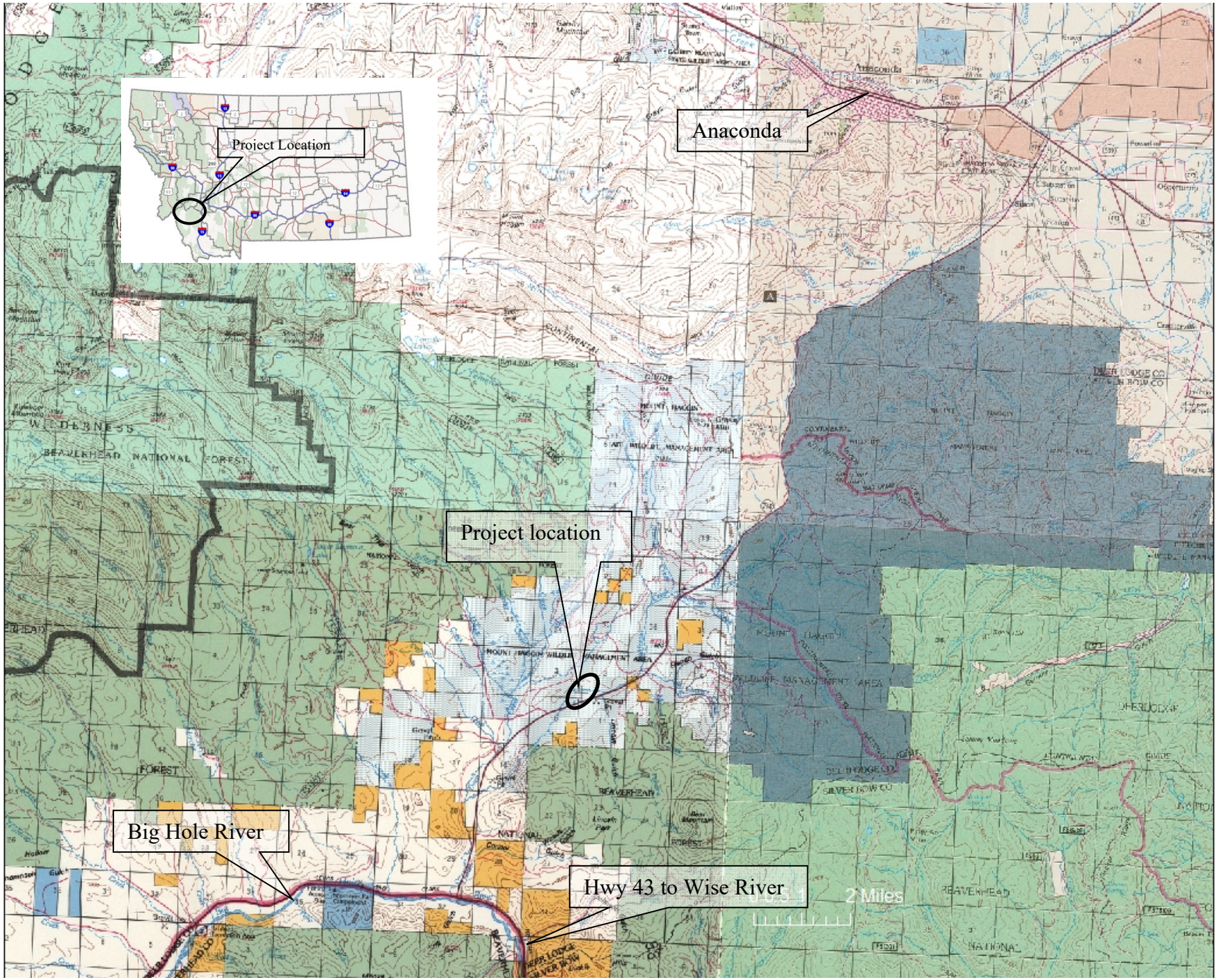

Figure 1. French Creek on the Mount Haggin Wildlife Management Area southwest of Anaconda, MT. Black circled is proposed stream channel restoration area detailed in Fig 2 below.

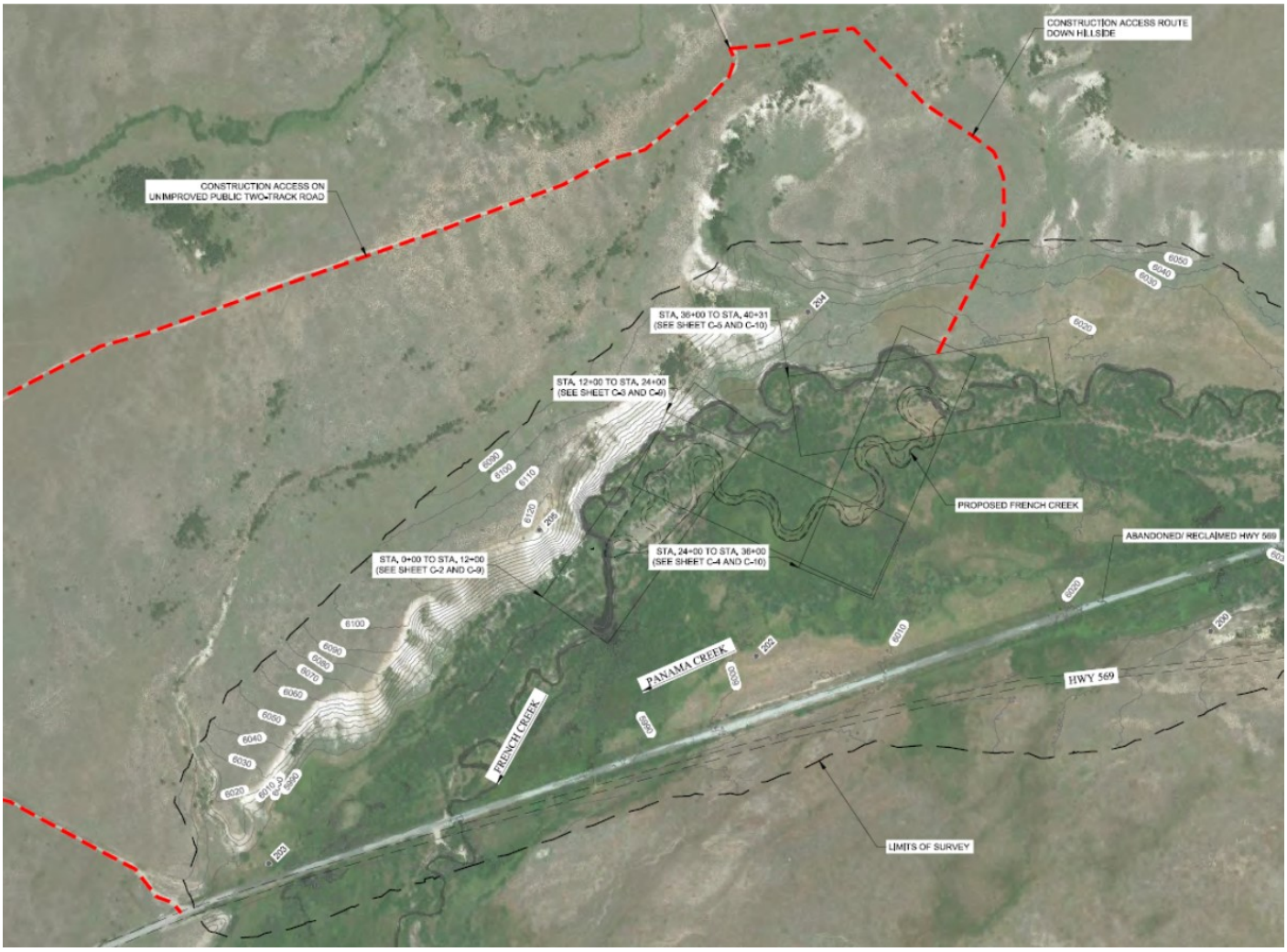

Figure 2. Detail of the channel restoration reach of stream on French Creek and its tributaries proposed for restoration.

F. Narrative Summary of the Proposed Action and Purpose of the Proposed Action

1. Placer Mining

The Mount Haggin Wildlife Management Area (WMA, Figure 1) was acquired by Montana Fish, Wildlife and Parks (FWP) in 1976 from the Mount Haggin Livestock Company through the Nature Conservancy. Prior to state ownership, the land was used for multiple purposes. Gold was first discovered 1864 in French Gulch, and a sizable mining camp was established in that drainage with year-round occupants. The French Gulch area, including First Chance Creek, Moose Creek, and parts of French Creek, were mined on and off through the early 1900's. Two hard rock mines were also present at the headwaters of French Gulch. Additional areas were placer mined in the French Creek drainage including parts of California Creek and Oregon Creek. In French Gulch, including First Chance Creek, more than 6 miles of stream was mined from one side of the valley bottom to the other down to the bedrock (more than 30 ft down).

Water was diverted from American, Moose, and other streams to French Gulch to supply water and hydraulic power to equipment used to excavate gravels and extract gold. Large water cannons (known as Hydraulic Giants) were used to hydraulically blast away the adjacent hill slopes so that the removed material could be sluiced for gold. The spoils of these mining activities often ended up in the stream and floodplain. In the upper gulch, a steam hoist or "Donkey" and derrick were employed raising and moving boulders out of the way. In 1900, the Allen Gold Mining Company added a floating dredge to French Creek which consisted of a boat or scow with appliances for digging and elevating material in front of it, sorting and washing it, collecting the gold, and discharging the waste or tailing to the rear of the boat. Placer mining was more or less continuous, at varying scales and by various methods, from 1864 to 1911.

French Creek downstream of French Gulch was dredged from the confluence of California Creek to the current crossing of Highway 569 (just over 2 miles). The stream appears to have been placed in a ditch to supply water to a mined area just upstream of the current crossing of Highway 569. The stream has since abandoned the ditch and formed a new channel. This new channel continued to carry excessive sediment loads from the more extensive placer mining occurring upstream in French Gulch and Moose Creek and the sediment being generated from the extensive logging and smelting operations in the uplands. The high sediment loads in the stream and the deposition occurring in the area has caused the stream channel to be very unstable leaving large gravel bars and high eroding banks. The stream channel today is still unstable through the reach of stream proposed for restoration. The stream has been forced to the western side of the valley and is cutting into a high terrace which is eroding massive amounts of sediments into the stream each year (Figure 3A-D). The water quality in French Creek is listed as impaired by MT DEQ for sediment in part due to the sediments generated in this reach of stream. The sedimentation occurring through this reach of stream is also partially responsible for a dramatic decline in the fishery in French Creek. Past fisheries monitoring suggests that upstream of this impaired reach the stream holds 984 combined brook and rainbow trout per mile, and downstream of the mining impacted reaches the stream only holds 350 trout per mile.


A
B

Figure 3 A-D. From upstream (A) to downstream (D), eroding banks of French Creek where massive amounts of sediment enter the stream each year.

To restore the impacts of past placer mining and sedimentation, FWP in cooperation with the Big Hole Watershed Committee are proposing to relocate roughly 2,000 ft of stream channel to a new floodplain location. The design (Figure 2) would include construction of a new stream channel through a wide and healthy riparian area adjacent to the existing stream channel in French Creek. The new stream channel would be constructed by excavators, bull dozers, and

dump trucks. The stream banks and floodplain of the new stream channel would be formed from existing sods that would be salvaged and reused. Riffles would be constructed of native material if suitable or imported material from French Gulch where a stockpile of suitable material exists. The new channel would also flow through the mined area on the lower portion of the project which would restore this impacted area which consists of bare ground, sagebrush, and lodgepole pine back to a healthy stream channel and riparian area. The new channel would be fully constructed in the summer/fall of 2019. Once construction is complete, the historic channel would be plugged and water would enter the newly created channel. The old channel would be reclaimed to wetlands. Excess soils, gravels, and other material would be deposited at the base of the western high banks, and bluffs and would be blended into the valley-bottom elevation. Other suitable uplands would be restored to wetland/riparian areas. It is anticipated that there will be a net gain of more than 2 acres of wetlands.

Pending funding, it is anticipated that construction of this project would begin in the summer of 2019 and would be completed before winter. Completion of the project will result in achieving the goal of restoring the impacts of past mining in the most impacted reaches of French Creek. The restoration objective of reducing sedimentation and improving aquatic habitat should occur within 1-2 years after project construction. Recovery of the fishery will occur incrementally as fish utilize the newly created habitat improvements and as the stream naturally adjusts to the changes made. Reduced sediment loading in French Creek could have significant benefits for mussels as they are sensitive to fine sediments.

A fish barrier is being constructed on French Creek downstream of the proposed project area (evaluation of this action was performed in a previous analysis). The fish barrier is a necessary step in restoring native Arctic grayling and westslope cutthroat trout to French Creek. The fish barrier downstream of the proposed stream channel restoration project will also act as a large sediment trap and allow sediments generated from construction to settle and lessen impacts to water quality downstream.

PART II. ALTERNATIVES

A1. No Action

Under the No Action Alternative, the stream habitat conditions in French Creek would remain in their existing condition with poor aquatic habitat and significant, chronic sediment loading. There would be no improvements to water quality or wetland areas. The No Action Alternative is the easiest and cheapest alternative to implement of the alternatives considered; however, it would not accomplish the goals of improving habitat and water quality. It would involve no active channel or floodplain restoration and would rely on natural processes to re-establish appropriate channel dimension and a functioning floodplain. It is likely that if the No Action Alternative were implemented, the stream channel would remain in its current state, which is causing impacts to water quality and the fishery downstream. Therefore, while the most cost effective and easy to implement, the No Action Alternative does not improve aquatic and riparian habitat or improve water quality in the short term or long term.

If no action were taken, the degraded habitat conditions and sediment loading, which are chronic, will be constantly in a state of flux as the channel attempts to erode the adjacent hill slopes and establish a floodplain. However, active stream restoration, like the proposed action, carries a risk of failure before vegetation can become established which could lead to short-term erosion. To mitigate this risk, FWP and the Big Hole Watershed Committee have hired a restoration specialist to design the new stream channel and oversee construction. Thus, under the No Action Alternative erosion problems could persist for many years into the future and result in more sediment entering the stream than if the stream channel restoration work failed. Full channel restoration should restore natural channel features and appropriate sinuosity which will aid in long-term channel stability. Therefore, while there is greater risk of short-term failure of restored areas, by establishing a natural channel with an appropriate floodplain, long-term sediment erosion should be significantly reduced if the channel is restored.

A2. Streambank stabilization

Alternative 2 would consist of stabilizing the stream channel in its existing configuration. This alternative would involve the implementation of techniques to stabilize existing streambanks through the use of "hard" techniques such as riprap rock and "soft" techniques such as willows and transplanted sods to stabilize the streambanks in their existing configuration. The advantages to this alternative are that it would be much less costly than full channel restoration and yet would still likely result in reductions of short-term sediment loading. The drawbacks are that it would not result in the creation of new floodplain that can dissipate the energy of high flows, and there would be no improvements to aquatic habitats and riparian areas that have been converted to uplands due to mining. The stream channel through this reach is unstable and eroding because it is seeking additional capacity for water and sediment conveyance. Stabilizing the stream in place will likely result in additional erosion in other locations because there has been no change in the floodplain or the streams ability to convey water and sediments. Because the stream is pinned against the high western terrace of the valley, it will likely begin to erode in other areas as it seeks a balance between sediment and flow. Therefore, while short-term sedimentation may be reduced, over the long run it is likely that additional erosion problems would develop.

Alternative 2 would also not result in the creation of additional wetland and riparian areas. The lower end of the proposed project area was more heavily mined. This has resulted in the conversion of more than 2 acres of what was likely once wetlands with riparian vegetation to uplands (sagebrush and lodgepole pine). This area would remain an upland under Alternative 2.

A3. Proposed Action

Alternative A3 is the Preferred Alternative for stream channel restoration (described in more detail above). Alternative A3 would involve the constructing of roughly 2,000 ft of new stream channel through an adjacent floodplain with a very healthy riparian area. The stream banks of the new channel would be formed with existing willows and salvaged sods. The new channel would be 200 ft longer than the historic channel which would result in an overall flatter slope which should reduce stream velocities and reduce erosion potential. The new channel will have constructed riffles and pools and improved aquatic habitat. The proposed action would achieve

the goals of long-term sediment reduction because streambanks would be stable, and the stream would have an adequate floodplain to dissipate energy during the highest flows. With improved water quality, it is anticipated that aquatic life should also improve including the fishery.

PART III. ENVIRONMENTAL REVIEW

A. PHYSICAL ENVIRONMENT

1. LAND RESOURCES Will the proposed action result in:	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Soil instability or changes in geologic substructure?			X		Yes	1a
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?			X		Yes	1b
c. Destruction, covering or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?			X		Yes	1d
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				

.

Comment 1a: The restoration of French Creek will disturb the existing soil and could produce temporary instability if a large flow event occurs before vegetation becomes established. A large flow event could erode newly transplanted sods washing away soils. However, the restoration techniques used have been proven effective in other projects, and proper engineering has been done on this project to prevent and/or mitigate any impacts to soils. FWP has concluded that the risk of significant failure and soil erosion using the techniques proposed is minimal. The intent of this restoration is to re-establish natural function to the stream channel and floodplain of French Creek. A naturally functioning stream channel will through time migrate back and forth within its floodplain.

Comment 1b: The restoration of French Creek will require the borrowing of riparian sods and woody riparian plants to reconstruct the stream banks and floodplain of the new channel. Most of these sods will be harvest from the construction area, stockpiled, and then reused. Excess sods and soils will be used to reclaim mined areas and the historic stream channel. Therefore, there will be no net loss of productivity in the area. Further, there will likely be a long-term gain in productivity as upland areas are converted to riparian species.

Comment 1d: The intent of the restoration work proposed in French Creek is to reduce the erosion of the high terraces on the west side of the stream to improve water quality and fish

habitat. The new stream channel will have a much wider floodplain and will be able to dissipate its energy as over bank flows occur during high water. This should reduce long-term erosion at this location. The newly constructed stream channel may experience short-term erosion as the stream sediments naturally sorts during high water, but this should not last for more than 1 year. Further, these sediments would largely be captured in the pool upstream of the fish barrier, lessening impacts to water quality downstream. The channel changes proposed will increase stream sinuosity, reduce the stream gradient, and reduce channel velocity. This will allow for the deposition of finer sediments (i.e., gravels) that would have otherwise been transported downstream. The deposition of gravels is a positive benefit in these streams because it will create spawning habitat for westslope cutthroat trout and Arctic grayling.

2. WATER **Will the proposed action result in:**	**IMPACT Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?			X		Yes	2a
b. Changes in drainage patterns or the rate and amount of surface runoff?		X				
c. Alteration of the course or magnitude of flood water or other flows?		X				2c
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. Will the project affect a designated floodplain?		X				
m. Will the project result in any discharge that will affect federal or state water quality regulations? (Also see 2a)			X		Yes	2m

Comment 2a: The vast majority of construction work proposed in French Creek will not occur in flowing water but will be done in the dry. The new channel and floodplain construction will occur while the stream is in its current channel. Once construction is complete, the existing stream channel will be plugged and flows will enter the new channel. As water is introduced

into the new channel, minor amounts of turbidity will be generated and these fines will be transported downstream.

It is possible that some of the restoration work done in French Creek could fail under high water conditions. The flow pattern the first few years after construction when vegetation becomes established will determine the risk of stream bank failure. After 1-2 years, vegetation should become established and provide stream bank stability and reduce risk of project failure. A qualified restoration engineering firm has been hired to design and oversee the construction of the restoration project to reduce the risk of stream bank failure. In FWP's determination, the risk of bank failure is minimal and the restoration work proposed will restore proper function to the system; thus it is anticipated that through time the stream will adjust and migrate back and forth as a normal functioning channel. Restoring the function of the stream and floodplain will mitigate any short-term failures of the engineered bank treatments. Also, when considered in the context of the history of mining in the drainage, any turbidity generated from the proposed restoration work would be insignificant.

A fish barrier not associated with this project is being constructed downstream of this location. The impoundment created upstream of the fish barrier will help to mitigate any impacts from turbidity generated through restoration activities. The impoundment upstream of the barrier should allow for fine sediments to settle thus reducing water quality impacts downstream.

Comment 2m: Construction of the new stream channel will result in the generation of minor amounts of turbidity. This will require obtaining permits from the Montana DEQ who regulates and enforces laws regarding water quality. Regulation of storm water will also occur to prevent storm discharge from degrading water quality. This discharge is also regulated by the Montana DEQ, and all necessary permits will be obtained prior to construction.

Cumulative Impacts: Minor amounts of turbidity are anticipated during project construction. However, one of the long-term objectives of this project is to improve water quality through the restoration of degraded streams, floodplains, and uplands. Therefore, cumulatively this project will potentially have significant benefits to long-term water quality.

3. AIR **Will the proposed action result in:**	**IMPACT Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Emission of air pollutants or deterioration of ambient air quality? (also see 13 (c))			X		Yes	3a
b. Creation of objectionable odors?		X				
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				

e. Will the project result in any discharge which will conflict with federal or state air quality regs?		X				

Comment 3a: Machinery that will be used to restore the impacts of mining will produce in the increase in exhaust fumes produced in the area. This impact should be minor and temporary as there are no air quality restrictions in the area, and the amount and duration of the emissions should be minimal. Airborne dust from construction work in the area will increase through the excavation of dry sediments and construction traffic. The majority of roads that will be used to perform the work described above are unimproved dirt roads. Therefore, as machinery travels the roads dust will be generated. Traffic use of the access roads will increase over existing use with construction activities, but the production of dust should only pose local minimal impacts to air quality. The area is also remote, and there are no residences within view of the construction area. These air quality impacts can be mitigated through the use of watering trucks to wet road surfaces to reduce dust if necessary.

Cumulative Impacts: Impacts to air quality from the proposed actions would be short term and minor. FWP does not expect the proposed action to result in other actions that would create cumulative impacts to air quality in the French Creek drainage. Nor does FWP foresee any other activities in the basin that would add to impacts of the proposed action.

4. VEGETATION **Will the proposed action result in:**	**IMPACT Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?			X		Yes	4a
b. Alteration of a plant community?		X				
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				4c
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?			X		Yes	4e
f. Will the project affect wetlands, or prime and unique farmland?		X				

Comment 4a: The restoration in the French Creek will result in the disturbance and alteration of plant communities in the areas proposed for renovation. Riparian sods and mature woody plants will be salvaged and transplanted to form the banks of newly constructed stream channels. This material will be collected from the area of the proposed channel construction and potentially other nearby borrow sources. These borrow sources, if needed, will be reclaimed and reseeded. Dormant willow stakes will also be harvested and used to establish willows along the stream and

constructed floodplain. These willow stakes will be harvested from local plants in the French Creek drainage. The placer piles adjacent to the streams have mostly been colonized by upland species such as lodgepole pine and sagebrush. The vegetation in these areas was likely formerly riparian species such as sedges and willows. These uplands will be converted to wetlands by excavating the placer piles to an elevation where plants can access the shallow groundwater. All of the created floodplain areas not covered in transplanted sods will be reseeded with appropriate native plant species seed mix. Existing vegetation will be salvaged and reused as much as possible to facilitate rapid revegetation and reduce the risk of importing non-native plants. The impacts to vegetation resulting restoration are anticipated to be short term and minor. One of the goals of restoration is to restore riparian vegetation in the area.

Comment 4c: The following information was extracted from a Biological Recourses Report prepared for Montana Department of Transportation (MDT) which covers the same area as the work proposed work for this project (MDT 2014). The Montana Natural Heritage Program identified two plant Species of Concern (SOC) within one mile of the project area: Hooker's balsamroot (*Balsamorhiza hookeri),* and Primrose monkeyflower *(Mimulus primuloides)*. The whitebark pine (*Pinus albicaulis)* is a candidate species for listing under the Endangered Species Act.

Hooker's balsamroot (*Balsamorhiza hookeri*) has a Montana state rank of S3 and a global rank of G5 (Natureserve 2013). Hooker's balsamroot is not ranked by any federal agencies such as USFWS, USFS, and BLM. Hooker's balsamroot is found in sagebrush steppe, in open and woodland environments, at elevations from 4,500 to 7,000 ft. It is primarily located on well drained soils, but also found on gravel to clay soils. Hooker's balsamroot is found throughout the western US. It is known in Montana in only two places: in the vicinity of Monida and within the Mount Haggin WMA. The Mount Haggin WMA occurrences are the northeastern-most known population of the species.

Hooker's balsamroot occurs within the proposed construction zone of the project area. Five occurrences of Hooker's balsamroot are reported within ½ mile of Secondary 569 in the vicinity of the project. However, no sites have been identified within the proposed construction area for placer mining or the fish barrier. No surveys were conducted for Hooker's balsamroot on the slopes of Sugarloaf Mountain because suitable habitat for the plant is not present. Therefore, there should be no impacts to this sensitive plant species.

Primrose monkeyflower (*Mimulus primuloides*) has a Montana state rank of S3 and a global rank of G5 (Natureserve 2013). Primrose monkeyflower is also ranked as sensitive by two federal agencies including USFS and BLM. Primrose monkeyflower is typically found in wet meadows and montane fens often dominated by sphagnum moss in the alpine and subalpine zones. These zones include moderate-to-high elevation systems found throughout the Rocky Mountains. They are dominated by mostly herbaceous species associated with wetter sites with very low-velocity surface and subsurface flows. These systems typically occur in cold and moist basins with seeps and alluvial terraces of headwater streams (Hansen et al., 1995). Primrose monkeyflower occurs throughout the west coast from Washington to California, east to southwestern Montana.

Primrose monkeyflower is not known to occur within the proposed project area slated for active construction. The known occurrence reported by the *Species of Concern Data Report* is located north of the project area at a higher elevation and within a more predominate wet meadow with adjacent forests communities. Based on current knowledge of the location of the plant and proposed design, the project would not impact the primrose monkeyflower. It is possible that the plant species is present in wet areas adjacent to areas slated for placer mining restoration, but none have been identified. It is also possible that some trampling could occur due to increased foot traffic along the proposed streams during treatment with rotenone; however, these impacts should be minimal because all streams have existing trails or roads that provide good foot and/or vehicular access to the sites.

Whitebark pine is a candidate species that occurs in the major mountain ranges of Montana at high elevations and in subalpine habitat. The project area does not contain any habitat suitable for whitebark pine. No whitebark pine trees were observed during field surveys. Due to the lack of whitebark pine or occurrence of suitable habitat in the project area, the proposed project is ***not likely to jeopardize the continued existence*** of the whitebark pine. Therefore, no further analysis of whitebark pine is necessary in this document.

Comment 4e: Machinery and equipment used during the project may inadvertently carry noxious weeds to the project site. Proposed mitigation includes washing all construction equipment and vehicles before entry onto the project site and removal of mud, dirt, and plant parts from project equipment before moving into the project area. FWP performs routine weed monitoring and spraying on the WMA. The disturbed areas will be monitored by FWP for the presence of weeds following construction activities and any weeds identified will be sprayed.

Cumulative Impacts: Negative impacts to vegetation from the proposed action would be short term and minor; however, the positive impacts of vegetation restoration are anticipated to be long term and significant. FWP does not expect the proposed action to result in other actions that would create cumulative impacts to vegetation in the French Creek drainage. FWP does not foresee any other activities that would add to impacts of the proposed action. As such there are no cumulative impacts to vegetation related to the proposed action.

5. FISH/WILDLIFE **Will the proposed action result in:**	**IMPACT Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?			X		Yes	5b
c. Changes in the diversity or abundance of nongame species?			X		Yes	5c
d. Introduction of new species into an area?		X				
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare,			X			5f

threatened, or endangered species?						
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?			X			5g
h. Will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f)		X				See 5f
i. Will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d)			X			5i

Comment 5b: It is likely that during construction activities that birds and mammals will be temporarily displaced due to increased human traffic in the area. These impacts should be short-term and minor. The proposed construction activities are expected to be completed within 60 days. Further, there are abundant similar habitats adjacent to the project area that displaced animals can occupy until construction is complete. Construction will occur timing will avoid important breeding times for birds and most mammals (late summer/fall).

Comment 5c:

Aquatic Invertebrates:

It is anticipated that the placer mining restoration area will have short term impacts on aquatic invertebrates. These impacts will come primarily though the relocation of the existing stream channel. The invertebrates that are present in the existing channel will be cut off from all surface flows once water is introduced into the restored channel. Groundwater will likely be present in the abandoned channel, but flow will likely be greatly reduced. Further, the plugging of the former channel will bury existing invertebrate habitat. However, the abandoned channel will become a series of shallow ponds or slow flowing waters which will be occupied by invertebrates. The restored channel will quickly be colonized by emigrating organisms. Both upstream and downstream of the proposed restoration reach in French Creek there are areas of undisturbed stream that will serve as sources for invertebrates to colonize the new channel segments. It is anticipated that within 1 year of restoration that aquatic invertebrates will have recovered in the restored stream. Because the stream channel in the restored reaches will be longer than the historic channel and with much less fine sediment, it is likely that there will be more invertebrate habitat than previously available. The creation of wetland features adjacent to the stream will provide additional aquatic habitat for lentic invertebrates.

Comment 5f: *Terrestrial Organisms:* The following information was extracted from a Biological Recourses Report prepared for Montana Department of Transportation (MDT) which covers the same area as the proposed work for this project (MDT 2014). A search of the Montana Natural Heritage database indicated that eight terrestrial or avian Species of Concern (SOC)

could occur within a 1-mile radius of the proposed project area: great blue heron (*Ardea herodias*), northern goshawk (*Accipiter gentilis*), great gray owl (*Strix nebulosa*), Clark's nutcracker (*Nucifraga columbiana*), veery (*Catharus fuscescens*), Cassin's finch (*Carpodacus cassinii*), and wolverine (*Gulo gulo luscus*). There are two federally listed species that may be present in the proposed project area. The grizzly bear (*Ursus arctos horribilis)* and the Canada Lynx *(Lynx canadensis)* are listed Threatened. The wolverine (*Gulo gulo luscus)* is a proposed species for listing under the Endangered Species Act.

Potential Impacts to Terrestrial Wildlife Species of Concern Potential impacts to these species are listed below:

- Direct loss of habitat associated with ground disturbance related to placer mining restoration.
- Noise disturbance associated with construction activities that displaces animals or renders habitat less desirable or unusable.

Potential adverse impacts from proposed construction activities to avian species of concern are expected to be minor and short-term. One of the goals of the mining restoration is to enhance riparian habitat. Most of the impacts to bird habitat will occur through an existing or former riparian area, but these impacts should be minor and short term as the new riparian area becomes established. The riparian area in the restored reach will be significantly larger, given the new floodplain, than the riparian area of the existing channel.

Grizzly Bear (Ursus arctos horribilis)

The grizzly bear is listed as a threatened species in the lower 48 states. Five recovery areas have been designated: Yellowstone Ecosystem, Northern Continental Divide Ecosystem, Cabinet-Yaak Ecosystem, Selkirk Ecosystem, and the Northern Cascade Ecosystem. Human-caused mortality and habitat loss are considered to be the primary threats to grizzly bears.

The proposed project does not occur in any of the designated recovery areas. Grizzly bears are not known to frequent the Mount Haggin Wildlife Management Area; however sporadic occurrences of grizzly bears in the general area have been reported historically and recently. Historic records indicate grizzly bear use in the area during the 1920's. More recently, in 2006, a grizzly was recorded in the Mount Haggin WMA, and in 2005 an illegal kill of a grizzly bear was documented in the general area of the WMA. The Montana Natural Heritage Program data base also shows grizzly bear use in adjacent Beaverhead and Powell counties. A recent DNA analysis of bear hair collected on the WMA showed all of the hairs to be from black bears, not grizzlies. While it appears that grizzly bear numbers are low and there is no documented occupancy in the general area, due to the wide-ranging nature of grizzly bears it is possible that individuals may travel through or incidentally occur in the project area.

The project is not anticipated to result in long-term adverse impacts to the grizzly bear or to grizzly bear habitat. Construction activities are unlikely to affect grizzly bears. It is concluded that the proposed project implementation will have no significant direct, indirect, or cumulative effects on the grizzly bear and will not result in loss of grizzly bear habitat. During construction, garbage or other substances may attract bears which poses potential harm or a mortality threat to

individual bears. Overall the restoration of habitat in the mining impacted reaches of stream should improve habitat conditions for grizzly bears and their food sources.

Canada Lynx (*Lynx canadensis*)
Canada lynx identified as a federally-listed threatened species that occurs in Deer Lodge County. After analyses of information on species of concern from Montana Natural Heritage Program and the review of data from USFWS, it was concluded that Canada lynx may potentially pass through the project area. The following sections on the Canada lynx provide information that addresses: 1) species description; 2) status and distribution; 3) life history and habitat requirements; 4) reasons for decline; 5) environmental baseline/occurrence in project area; 6) actions/impacts and cumulative effects; 7) recommended conservation and coordination measures; and 8) determination of effect.

According the USFWS and correspondence with Montana Natural Heritage Program, the proposed project area is not located within critical habitat for Canada lynx. However, due to its close proximity to sub-alpine, mesic mixed conifer and woodland forest ecosystems, the project area may potentially provide a movement corridor for Canada lynx. The land surrounding the project area is undeveloped forest grasslands managed by FWP, USFS, and BLM. Canada lynx require contiguous habitat with ground and overhead cover in montane forests, therefore the immediate project area does not contain suitable habitat. Canada lynx may have potential incidental occurrences within the project area; however, lynx surveys conducted between 1999 and 2001 within the Beaverhead-Deerlodge National Forest detected no lynx. From 2001 to 2005, 11,220 miles of winter snow-tracking surveys and trap route checks on the Beaverhead-Deerlodge National Forest detected no verified lynx tracks. Additional surveys also failed to detect any lynx, and it was concluded that most of the Beaverhead-Deerlodge National Forest was not suitable lynx habitat. These data suggest that Canada lynx are unlikely to occur in the project area. However, due to the project's proximity to undeveloped forest lands, there is the potential for incidental movement through the project area.

Canada lynx have specific habitat requirements consisting of continuous forested areas with dense understory vegetation. These specifications exist within and adjacent to the immediate project area. However, data indicate that their presence is unlikely. It is concluded that the proposed project will have no significant direct, indirect, or cumulative effects on the Canada lynx. Conservation measures designed to avoid and minimize potential impacts to Canada lynx should consist of monitoring of the project area for the presence of the species prior to and throughout the duration of construction activities. In the event that a Canada lynx is observed within the project area during project construction activities, FWP will contact USFWS for instruction. If present in the project area, restrictions on certain construction activities or areas of limited access may be recommended.

Aquatic organisms:

Westslope Cutthroat Trout
WCT is a SOC and has a Montana state rank of S2 and global rank of G4T3. It is listed as a Tier I species in the FWP *Fish and Wildlife Conservation Strategy*; meaning that the species is in greatest conservation need. The US Forest Service Region 1 Regional Forester has designated

the westslope cutthroat trout as sensitive on the Beaverhead-Deer Lodge National Forest. The BLM has designated this species as a sensitive species in Montana. One of the purposes of the proposed project is to restore habitat for WCT in the French Creek drainage. There are no anticipated negative impacts to WCT by the proposed action because the species has not yet been restored to the drainage. Once non-native fish are removed, non-hybridized WCT reintroduced to French Creek and its tributaries the restored stream should provide improved habitat for native fish.

Arctic Grayling

Arctic grayling is a SOC and has a Montana state rank of S1 and global rank of G5. It is listed as a Tier I species in the FWP *Fish and Wildlife Conservation Strategy*; meaning that the species is in the greatest conservation need. The US Forest Service Region 1 Regional Forester has designated the Arctic grayling as sensitive on the Beaverhead-Deer Lodge National Forest. The species was petitioned for listing under the Endangered Species Act and was a candidate species for several years. In 2014, the USFSW determined that listing the Arctic grayling was not warranted at this time, and a lawsuit was filed shortly after objecting to the decision. The intent of the proposed project is to restore stream habitat that would benefit Arctic grayling in the French Creek drainage. Recent surveys did not find grayling in French Creek, but anecdotal evidence suggests that adult fish may seasonally frequent French Creek. Once the stream channel is restored and non-native fish are removed, Arctic grayling from the Big Hole drainage will be reintroduced to French Creek and its tributaries. The improved habitat conditions in the restored channel and in areas downstream which suffer sedimentation from the erosion occurring in the restoration reach will benefit Arctic grayling.

Western Pearlshell Mussels

The western pearlshell (*Margaritifera falcata*) mussel has a Montana state rank of S2 and a global rank of G4G5. It is listed as a Tier I species in the FWP *Fish and Wildlife Conservation Strategy*, meaning that the species is in the greatest conservation need and has been recently designated (2011) as a USFS Region 1 Sensitive Species. The western pearlshell's shell is elongate and dark colored with a pink-purplish inside (nacre); adults typically range from 50 to 85 mm with old individuals exceeding 100 mm. Adults are sedentary and rarely move more than a few meters throughout their lives. The western pearlshell is Montana's only cold water trout stream mussel and is found on both sides of the Continental Divide. In Montana, it is in serious decline and at risk statewide, especially populations in the Upper Missouri River. Within the Upper Missouri River Basin, tributaries to the Beaverhead and Big Hole (Bloody Dick, Deep Creek, and Clam Creek) and upper Madison Rivers hold viable populations. Mussels occur in French Creek and in several locations more than two miles downstream in Deep Creek. The populations identified within the project area are listed as non-viable with no reproduction or with a fair population density (<25 individuals per 50m) but still no juveniles present. Evidence of limited reproduction was noted in the 2013 when 1 juvenile mussel (4 cm) was found in an 800 ft reach of stream downstream of the project area. With no or limited reproduction, these populations are not likely to persist into the future.

In general, there is the potential for temporary increased sedimentation in French Creek during construction and for a period of time after construction even with usual sediment control measures. Sediment release due to construction activity will be short-term and temporary and is

likely to decrease overtime as disturbed ground stabilizes. Ultimately, long-term sediment loading is anticipated to be dramatically reduced as a result of the proposed restoration activities. Prior to construction, the existing stream channel will be searched for mussels, and any individuals encountered will be moved upstream of the project reach and released in suitable habitat. Translocations optimally would occur late-July to September when reproductive stress is low and metabolic rate sufficient for effective re-burrowing into the substrate. It is anticipated that once habitat conditions have improved and native restored, mussel populations will increase in French Creek.

Comment 5g. There is the potential for displacement of some animals during the implementation of this project (see Comment 5f). Mule deer, elk, other big game species and species mentioned above (Comment 5f) may be temporarily displaced as crews are present in the drainages performing the proposed work. However, these impacts should only be minor and temporary. No long-term negative impacts to wildlife populations and positive impacts are anticipated as habitat is restored.

Comment 5i: Westslope cutthroat trout and Arctic grayling were historically present in the French Creek drainage. Only 1 small population of WCT remains in the headwaters of American Creek, and no grayling have been found by FWP in French Creek but angler-reported catches have been noted. The intent of this project is to restore habitat to benefit native species.

Cumulative Impacts: Impacts to fish and wildlife from the proposed action would be short term and minor. FWP does not expect the proposed action to result in other actions that would create cumulative impacts to fish and wildlife resources within the proposed restoration streams. FWP does not foresee any other activities in the basin that would add to impacts of the proposed action. As such there are no cumulative impacts to non-target organisms.

B.HUMAN ENVIRONMENT

6. NOISE/ELECTRICAL EFFECTS **Will the proposed action result in:**	**IMPACT Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Increases in existing noise levels?			X		No	6a
b. Exposure of people to serve or nuisance noise levels?			X		Yes	6b
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				

Comment 6a: The presence of large machinery in French Creek to construct the project will result in increased noise generation. Construction work in the drainage will occur from July through November as conditions allow. There are no residences within 1 mile of the project. Noise impacts would be limited only to those who may be driving by or recreating temporarily in the area.

Comment 6b. There are no residences located adjacent to proposed construction areas. Therefore, there is only anticipated to be minimal noise generation that could be considered nuisance at these locations.

Cumulative Impacts: Increases in noise from the proposed action would be short term and minor. FWP does not expect the proposed action to result in other actions that would create increased noise in the streams or drainages proposed for restoration. FWP does not foresee any other activities in the basin that would add to impacts of the proposed action. As such there are no cumulative impacts related to noise from the construction.

7. LAND USE **Will the proposed action result in:**	**IMPACT Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflicted with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?			X			See 7c
d. Adverse effects on or relocation of residences?		X				

Comment 7c: During construction, public access to the immediate construction area would be closed to reduce public risk. The length of the closure would depend on the amount of time active construction is occurring but is not anticipated to last more than 60 days.

Cumulative Impacts: Impacts on land use from the proposed action would be short term and minor. FWP does not expect the proposed action to result in other actions that would impact land use. FWP does not foresee any other activities in the basin that would add to impacts of the proposed action. As such there are no cumulative impacts related to land use from the proposed project.

8. RISK/HEALTH HAZARDS **Will the proposed action result in:**	**IMPACT Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?			X		YES	8a

b. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?		X				
d. Will any chemical toxicants be used?		X				

Comment 8a: There is a minor risk of oil or fuel being spilled from heavy machinery that would construct the proposed project. A fueling location will likely be established by the contractor performing the proposed work. This location will be fitted with appropriate fuel containment devices in the event of a spill as per the engineer's technical project specifications. It is possible that a ruptured line or tank could also spill oil or fuel. Machinery will be inspected prior to mobilization, and any leaks will be fixed. In the event that a leak is discovered, that equipment would be evaluated and the leak fixed prior to is further use.

Cumulative Impacts: Health hazards from the proposed action would be short term and mitigated through closure of restoration area to public during construction. FWP does not expect the proposed action to result in other actions that would increase the risk of health hazards. FWP does not foresee any other activities in the basin that would add to health impacts of the proposed action. As such there are no cumulative impacts related health hazards from the proposed treatments.

9. COMMUNITY IMPACT **Will the proposed action result in:**	**IMPACT Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?			X			9e

Comment 9e. Construction traffic will increase during restoration. These impacts should be limited primarily to the primitive roads that access the site. Some construction traffic will also use Highway 569 which could slow the movement of people. If fill is imported for the new stream channel, it will come from the stockpile at French Gulch and transported approximately 2 miles via Highway 569 to the construction site. Equipment used to haul the fill will likely travel

at slower speeds than the posted 55 mph speed limit. However, traffic on Highway 569 is light, and it is anticipated that increased truck traffic will be minimal.

10. PUBLIC SERVICES/TAXES/UTILITIES **Will the proposed action result in:**	**IMPACT Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify:		X				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased used of any energy source?		X				
e. Define projected revenue sources		X				
f. Define projected maintenance costs		X				

11. AESTHETICS/RECREATION **Will the proposed action result in:**	**IMPACT Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?		X				
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings? (Attach Tourism Report)		X				

d. Will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c)		X				

12. 12/HISTORICAL RESOURCES **Will the proposed action result in:**	**IMPACT Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance?		X				
b. Physical change that would affect unique cultural values?			X		Yes	12b
c. Effects on existing religious or sacred uses of a site or area?		X				
d. Will the project affect historic or cultural resources?			X		Yes	12b

Comment 12b: Cultural inventories in the areas adjacent to those proposed for restoration or construction have been conducted by GCM Services Inc. of Butte, MT. These inventories have identified cultural resources on the west and north of the proposed project area. GCM Services Inc. in Butte has been contracted to perform a cultural inventory specific to this project but has not completed the on the ground surveys because of the snow conditions at the site. However, in consultation with GCM, it was stated that "I would expect to find some archaeological deposits along the west side (upper cut banks) and on any remnant of original, higher terraces. I would not be surprised if the access route needed to be tweaked to avoid something. Of course, most of the willow bottom area is newer than the archaeology, that is, the sandbars and silt having being recently deposited from mining run off and flooding in the past 150 years, etc. On the whole, I do not expect to find too much in the heart of the willow bottom where the proposed new channels will be located." The proposed access route (Figure 2) can be easily adjusted to avoid impacts to cultural resources. The stream bottom where the vast majority of the construction activities are to occur will not likely contain historical resources that would be threatened by the project. However, because the cultural inventory has not been completed, FWP will not proceed with the project until on the ground surveys can be completed and any needed adjustments to the design have been made to avoid or mitigate for impacts to cultural resources. The project will not move forward until the State Historical Preservation Office has reviewed the findings of GCM and given cultural clearance for the project.

13. SUMMARY EVALUATION OF SIGNIFICANCE **Will the proposed action, considered as a whole:**	**IMPACT Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Have impacts that are individually		X				

limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources which create a significant effect when considered together or in total.)						
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. Is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e)		X				
g. List any federal or state permits required.						13g

Comment 13g: The following permits would be required:

MT FWP 124
MT DEQ 318
USACE 404/401
Deer Lodge County Floodplain Permit
Stormwater Discharge Permit

PART IV. OVERLAPPING AGENCY JURISDICTION

A. Name of Agency and Responsibility
   a. US Army Corps of Engineers administers the Section 404 and 401 certifications.
   b. A portion of the project may occur within an area with a designated floodplain by Deer Lodge County therefore a floodplain permit may be required.
   c. Montana Fish Wildlife and Parks administers the Stream Protection Act (SPA 124) and therefore a permit would be required from this agency.

PART V. AGENCIES THAT HAVE CONTRIBUTED OR BEEN CONTACTED

A. Name of Agency

a. Montana Department of Environmental Quality.
b. Montana Department of Fish, Wildlife & Parks
c. US Army Corps of Engineers
d. Montana Natural Heritage
e. Montana State Historical Preservation Office
.

PART VI. ENVIRONMENTAL IMPACT STATEMENT REQUIRED?

After considering the potential impacts of the proposed action and possible mitigation measures, FWP has determined that an Environmental Impact Statement is not warranted. The impacts of stream channel restoration as described in this document are minor and/or temporary and mitigation for many of the impacts is possible. The primary negative impacts as a result of this project are temporary disturbance related to construction activities. Impacts to aquatic invertebrates have been shown to be short term (1-2 years) and minor and invertebrate communities are very resilient to disturbances such as treatment with rotenone. Further, the benefit to native species would balance the potential minor and short-term impacts to other species.

Prepared by : Jim Olsen, Fisheries Biologist____ Date: _May 1, 2019_____

Submit written comments to: Montana Fish, Wildlife & Parks
c/o Stream Channel Restoration in French Creek
1820 Meadowlark Ln.
Butte, MT 59701
jimolson@mt.gov

Comment period is 30 days. (30 d min) Comments must be received by May 31, 2019.

PART V. REFERENCES

Bosworth, D. N., K. B. Clarke and J. Baughman. 2006. Policies and Guidelines for Fish and Wildlife Management in National Forest and Bureau of Land Management Wilderness.

BPA (Bonneville Power Administration) 2004. South Fork Flathead watershed westslope cutthroat trout conservation project. Draft environmental impact statement. DOE/EIS 0353. Portland, OR.

DEQ. 1996. Risk-Based Cleanup Guidelines for Abandoned Mine Sites. Final Report. State of Montana Department of Environmental Quality, Abandoned Mine Reclamation Bureau, 1520 E. 6th Ave, Helena, MT 59620.

DEQ. 2009. Middle and Lower Big Hole Planning Area TMDLs and Water Quality Improvement Plan. Montana Department of Environmental Quality, P.O. Box 200901, Helena, MT 59620-0901

FWP. 1999. Memorandum of understanding and conservation agreement for westslope cutthroat trout (*Oncorhynchus clarki lewisi*) in Montana. Helena, Montana, Montana Department of Fish, Wildlife and Parks.

FWP. 2007. Memorandum of understanding and conservation agreement for westslope cutthroat trout and Yellowstone cutthroat trout in Montana. Helena, Montana, Montana Fish, Wildlife and Parks.

FWP. 2012. Montana state-wide fisheries management plan 2013-2018. Montana Fish, Wildlife and Parks, Helena, Montana.

Ferguson, D. M. 2019. A Class III Cultural Resource Inventory and Assessment of the Proposed Streambed Rehabilitation Project on French within the Mount Haggin Wildlife Management Area, Deer Lodge County, Montana. Report prepared for the Big Hole Watershed Committee and Montana Fish, Wildlife and Parks by GCM Services, Inc., Butte.

Grisak, G. 2003. South Fork Flathead watershed westslope cutthroat trout conservation program. Specialist report for environmental impact statement. FWP, Kalispell.

Hart, R.A., T. Brastrup, D. E. Kelner and M. Davis. 2001. The Freshwater Mussel Fauna (Bivalvia: Unionidae) of the Knife River, Minnesota, Following a Rotenone Treatment. Journal of Freshwater Ecology 16:487-492.

Kaya, C.M. 1990. Status report of fluvial Arctic Grayling (Thymallus arcticus) in Montana. Prepared for Montana Fish, Wildlife & Parks, Helena, MT.

Kaya, C.M. 1992. Restoration of Fluvial Arctic Grayling to Montana streams: Assessment of recolonization potential of streams in the native range, the upper Missouri River drainage

above Great Falls. Prepared for Montana Chapter of the American Fisheries Society, Montana Fish, Wildlife and Parks, U.S. Fish and Wildlife Service, and the U.S. Forest Service.

Kiaser J, and R. Richardson. 2000. Decision Notice and Finding of no Significant Impact Anaconda-Pintler Wilderness Management Direction. USDA Forest Service, Beaverhead-Deerlodge National Forest, Bitterroot National Forest. 420 Barrett St. Dillon, MT 59725

Matthaei, C.D., Uehlinger, U., Meyer, E.I., Frutiger, A. 1996. Recolonization by benthic invertebrates after experimental disturbance in a Swiss prealpine river Freshwater Biology 35 (2):233-248.

Mihuc, T.B. and G. W. Minshall. 1995.Trophic generalists vs. trophic specialists: implications for food web dynamics in post-fire streams. Ecology 76(8):2361-2372

Minshall, G.W. 2003. Responses of stream benthic invertebrates to fire. Forest Ecology and Management. 178:155-161.

Montana Department of Transportation. 2014. Moose Creek Road—N&S STPS 569-1(5)15 UPN 4909001. Biological Resources Report. January 2014. Montana Department of Transportation P.O. Box 201001, 2701 Prospect Avenue, Helena, Montana 59620-1001

Oswald, R., A. 1981. Aquatic Resources Inventory of the Mt. Haggin Area. Montana Department of Fish Wildlfe and Parks. Project Number 3323. Region 3. Bozeman, Montana.

Redenbach, Z., and E.B. Taylor. 1999. Zoogeographical implications of variation in mitochondrial DNA of Arctic grayling (Thymallus arcticus). Molecular Ecology 8:23-35.

Shetter, D.S. and G.R. Alexander. 1970. Results of predator reduction on brook trout and brown trout in 4.2 miles of the North Branch of the Au Sable River. Transactions of the American Fisheries Society 2:312-319.

Shepard, B.B., R. Spoon and L. Nelson. 2001. Westslope cutthroat trout restoration in Muskrat Creek, Boulder River drainage, Montana. Progress report for period 1993 to 2000. Montana Fish, Wildlife & Parks, Townsend.

Stamford, M.D., and E.B. Taylor. 2004.. Evidence for multiple phylogeographic lineages of Arctic grayling (Thymalus arcticus) in North America. Mol. Ecol. 39 pp.

Thompson, P. D., and F. J. Rahel. 1996. Evaluation of depletion-removal electrofishing of brook trout in small Rocky Mountain streams. North American Journal of Fisheries Management 16:332–339.

Wang, S., J.J Hard, and F. Utter. 2002. Salmonid inbreeding: a review. Reviews in Fish Biology and Fisheries. 11:301-319.

Wohl, N.E. and R. F. Carline. 1996. Relations among riparian grazing, sediment loads, macroinvertebrates, and fishes in three Pennsylvania streams. Canadian Journal of Fisheries and Aquatic Sciences. 53:260-266.